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ENVIRONMENTAL PROTECTION AGENCY

40 CFR PART 52

[FRL -]

State Implementation Plans for Lead Nonattainment Areas; Addendum to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990

AGENCY: Environmental Protection Agency (EPA).

ACTION: Addendum to General Preamble for future proposed rulemakings.

SUMMARY:

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SUPPLEMENTARY INFORMATION: NOTE: In accordance with 1 CFR 5.9(c), this document is published in the proposed rules category. References cited herein are available from the Public Docket No. A-92-25. The docket is located at the U.S. EPA Air Docket, Room M-1500, Waterside Mall, LE-131, 401 M Street, S.W. Washington, D.C. 20460. The docket may be inspected from 8:30 a.m. to 12 noon and from 1:30 p.m. to 3:30 p.m. on weekdays, except for legal holidays. A reasonable fee may be charged for copying.

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I. Statutory Background

Any State containing an area designated as nonattainment with respect to the lead national ambient air quality standards (NAAQS) in effect on the date of enactment of the 1990 Clean Air Act Amendments must develop and submit a Part D State implementation plan (SIP) providing for attainment. [See sections 191(a) and 192(a) of the Clean Air Act (Act)]. As indicated in the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990" (see 57 FR 13498, April 16, 1992), all components of the lead Part D SIP must be submitted within 18 months of an area's nonattainment designation. The general Part D nonattainment plan provisions are set forth in section 172 of the Act. Section 172(c) specifies that SIP's submitted to meet the Part D requirements must, among other things, include reasonably available control measures (which includes reasonably available control technology), provide for reasonable further progress, include an emissions inventory, require permits for the construction and operation of major new and modified stationary sources (see also section 173), contain contingency measures, and meet the applicable provisions of section 110(a)(2). The Environmental Protection Agency (EPA) has provided guidance for implementing some of the above provisions in the April 16, 1992, "General Preamble." It is important to note that nonattainment lead SIP's must meet all of the Part D requirements including those specified in section 172(c) even if EPA does not issue guidance for each and every provision, e.g., applicable provisions of section 110(a)(2).

II. Reasonably Available Control Measures (RACM) [Including Reasonably Available Control Technology (RACT)]

A. Introduction

As a general rule, most, if not all of the lead nonattainment areas are attributed to specific stationary sources. That is, violations of the lead NAAQS are caused by current and in some cases historical emissions (see discussion below) from specific stationary sources. Therefore, to meet the Part D requirements, lead SIP's must contain RACM (including RACT) which addresses both historical emissions as well as current direct emissions.

As a general rule, stationary lead sources tend to be dirty sources. At primary lead smelters, for example, the process of reducing concentrate ore to lead involves a series of steps some of which are completed outside buildings or inside buildings which are not totally enclosed. Over a period of time emissions from these sources have been deposited in the neighboring community, e.g., on roadways, parking lots, and yards, off plant property. This historically deposited lead, when disturbed, is reentrained in the ambient air. When reentrained, the fugitive lead-bearing dust may contribute to violations of the lead NAAQS.

B. Reasonably Available Control Measures

The suggested starting point for specifying RACM in each SIP is the listing of available control measures for fugitive lead-bearing dust contained in Appendix 1. If a State receives substantive public comment demonstrating through appropriate documentation that additional control measures may well be reasonably available in a particular circumstance, those measures should be added to the list of available measures for consideration for that area. The RACM is then determined for the affected area's SIP. While EPA does not presume that these control measures are reasonably available in all areas, EPA expects States to prepare a reasoned justification for rejection of any available control measure. If it can be shown that one or more measures are unreasonable because emissions from the sources affected are insignificant (i.e., de minimis), those measures may be excluded from further consideration as they would not represent RACM for the area.[1] The resulting available control

[1]Where the sources affected by a particular measure contribute only negligibly to ambient concentrations that exceed the NAAQS, EPA's policy is that it would be unreasonable and therefore would not constitute RACM to require controls on the source. In this regard, it is worth noting that the inherent

measures should then be evaluated for reasonableness, considering their technological feasibility and the cost of control in the area to which the SIP applies. In the case of public sector sources and control measures, this evaluation should consider the impact of the reasonableness of the measures on the municipal or other governmental entity that must bear the responsibility for their implementation (e.g., paving of unpaved public roads). The EPA anticipates that in some cases, the sources responsible for depositing lead emissions in the affected community will bear some of the responsibility for implementation of what are generally viewed as public sector control measures. It is important to note that a State should consider the feasibility of implementing measures in part when full implementation would be infeasible. The SIP submittal to EPA should contain a reasoned justification for partial or full rejection of any available control measures, including those considered or presented during the State's public hearing process that explains, with appropriate documentation, why each rejected control measure is infeasible or otherwise unreasonable.

When the process of determining RACM for an area is completed, the individual measures should then be converted into a legally-enforceable vehicle (e.g., a regulation or permit program) [see sections 172(c)(6) and 110(a)(2)(A) of the Act]. The regulations or other measures submitted should meet EPA's criteria regarding the enforceability of SIP's and SIP revisions. These criteria were stated in a September 23, 1987 memorandum (with attachments) from J. Craig Potter, Assistant Administrator for Air and Radiation; Thomas L. Adams, Jr., Assistant Administrator for Enforcement and Compliance Monitoring; and Francis S. Blake, General Counsel, Office of the General Counsel, entitled "Review of State Implementation Plans and Revisions for Enforceability and Legal Sufficiency." As stated in this memorandum, SIP's and SIP revisions which fail to satisfy the enforceability criteria should not be forwarded for approval. If they are submitted, they will be disapproved if, in EPA's judgement, they fail to satisfy applicable statutory and regulatory requirements.

The technical guidance that discusses in detail the suggested initial measures identified in Appendix 1 and that a State should consider in determining which of the measures in Appendix 1 are technically feasible and economically reasonable

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authority of administrative agencies to exempt de minimis situations from
regulation has been recognized in contexts such as this where an agency is invoking a de minimis exemption as "a tool to be used in implementing the legislative design" [see Alabama Power Co. v. Costle, 636 F.2d 323, 360 (D.C. Cir. 1979)].

in a particular area is contained in "Control of Open Fugitive Dust Sources,"[2] (EPA-450/3-88-008), September 1988. This document has been in use for several years and is based on substantial input from State and local agencies, trade groups and associations, and control experts. "Control of Open Fugitive Dust Sources" may serve as an example in analyzing control costs for a given area. Copies of this document may be obtained by contacting National Technical Information Source, 5285 Port Royal Road, Springfield, Virginia 22161.

C. Reasonably Available Control Technology (RACT)

This guidance follows EPA's historic definition of RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.[3] The RACT applies to the "existing sources" of lead stack, process fugitive, and fugitive dust emissions (e.g., haul roads, unpaved staging areas) [see section 172(c)(1)]. The EPA recommends that stationary sources which actually emit a total of 5 tons per year of lead or lead compounds measured as elemental lead be the minimum starting point for RACT analysis[4].

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[2]Note: Throughout this document EPA refers to the "Control of Open Fugitive Dust Sources" document. The reader should be aware that EPA is reformatting the "Control of Open Fugitive Dust Sources" document with "Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures." Virtually all of the information contained in the first document is being included in the more recent document. Further, the more recent document will be designed to be updated as new information become available. Therefore, in the future, the latter document should be referred to as a starting point for identifying available control measures for lead-bearing fugitive dust.

[3]See, for example, 44 FR 53762 (September 17, 1979) and footnote 3 of that notice. Note that EPA's emissions trading policy statement has clarified that the RACT requirement may be satisfied by achieving "RACT equivalent" emission reductions from existing sources.

[4]The EPA's regulations define a point source for lead or lead compounds measured as elemental lead, as any stationary source that actually emits a total of 5 tons per year or more. [See 40 CFR 51.100(k).] The significance of this definition is that a point source of lead is required to meet certain control strategy requirements (see 40 CFR 51.117) and general NSR permitting criteria (see April 8, 1980 memorandum from Richard G. Rhoads, Director, Control Programs Development Division, entitled

Generally, EPA recommends that available control technology be applied to those existing sources in the nonattainment area that are reasonable to control in light of the attainment needs of the area and the feasibility of such controls. Thus, EPA recommends that a State's control technology analyses for existing stationary sources include sources which actually emit less than 5 tons per year of lead or lead compounds in the area and that States require control technology for other sources in the area that are reasonable to control in light of the area's attainment needs and the feasibility of control.[5] Specific guidance on the

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"NSR Review Requirements for Lead"). The 5 tons per year has been a historically important threshold level for lead and, as such, has been selected here to be the minimum starting point for RACT
analysis.

Note that the Clean Air Act Amendments of 1990 included a General Savings Clause which provides that regulations (or guidance, etc.) in effect before enactment of the Amendments shall remain in effect after enactment (see section 193 of the amended Act). However, the Savings Clause also provides that such regulations (or guidance, etc.) shall remain in effect "except to the extent otherwise provided under this Act, inconsistent with the provision of this Act, or revised by the Administrator." Id.

[5]Note that Congress has not used the word "all" in conjunction with RACT in either the earlier law or as now amended. Thus, it is possible that a State could demonstrate that an existing source in an area should not be subject to a control technology, especially where such control is unreasonable in light of the area's attainment needs or infeasible. Even if EPA was required to impose control technology on every existing stationary source, where a State demonstrates that available control technology for a source is infeasible or otherwise unreasonable, EPA would conclude that "reasonably" available control technology for that source constitutes no control or, stated differently, that no control technology for the source is "reasonably" available.

As referenced above, section 172(c) of the amended Act provides that RACT should apply to "existing sources in the area." This is the same language that appeared in the RACT requirements under the CAA prior to the 1990 Amendments [see section 172(b)(3) of the preamended law]. Under the pre-amended law, EPA in effect interpreted the phrase "existing sources in the area" as it is interpreted here. The EPA believes that Congress has placed its imprimatur on, if not adopted, EPA's prior interpretation of RACT [see, e.g., section 182(a)(2)(A) of

evaluation of the technological and economic feasibility of control technology for existing stationary sources is contained in Appendix 2.

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the amended Act, see also section 193 of the amended Act (savings clause preserving prior EPA guidance except where inconsistent with the Clean Air Act Amendments)].

D. Previously Approved Lead SIP's

Since 1979, EPA has taken action to approve a number of lead area SIP's. For example, for areas that requested attainment date extensions EPA may have approved SIP's that required RACT for existing stationary sources of lead. With respect to controls on stack and process fugitive emission points that represented RACT in previously-approved lead SIP's, EPA specifically recommends that the emission limits be reviewed under the guidance for nonattainment area RACT provided in this memorandum in light of any newly identified attainment needs of the area and improvements in control technology and reductions in control costs that may now make lower emission limits reasonable (see Appendix 2). Thus, in those lead nonattainment areas that have previously-approved lead SIP's, the lead regulations for existing sources should be reviewed to determine whether: (1) additional controls are necessary to meet Part D RACT requirements, and (2) the regulations meet EPA's enforceability criteria.

Section 110(n)(1) of the amended Act specifies that any provision of any lead SIP, including any revisions, that were approved or promulgated by EPA before enactment of the 1990 Amendments shall remain in effect until EPA approves or promulgates a revision to the SIP under the new law. Section 110(l) of the Act prohibits EPA from approving any SIP revision that interferes with any applicable requirement of the Act including, for example, reasonable further progress and attainment. Further, the General Savings Clause, section 193 of the Act, states that any control requirement in effect or required to be adopted by a SIP in effect before enactment of the 1990 Amendments for any area which is a nonattainment area for any air pollutant may not be modified unless the modification ensures equivalent or greater emission reductions of such air pollutant. Thus, under section 110(n)(1), existing provisions of lead SIP's remain in effect in areas designated nonattainment for lead until such provisions are revised under the new law. Further, under section 110(l) EPA is barred from approving a SIP revision which interferes with any applicable Clean Air Act requirement. Finally, under section 193, no revision of a control requirement can occur unless it ensures at least equivalent emission reductions.

E. SIP's That Demonstrate Attainment

The SIP's for lead nonattainment areas should provide for the implementation of control measures for area sources and control technology for stationary sources of lead emissions which demonstrate attainment of the lead NAAQS as expeditiously as practicable but no later that the applicable statutory attainment dates. Therefore, if a State adopts less than all available

measures but demonstrates, adequately and appropriately, that (a) reasonable further progress (discussed later) and attainment of the lead NAAQS are assured, and (b) application of all such available measures would not result in attainment any faster, then a plan which requires implementation of less than all technologically and economically available measures may be approved.[6] The EPA believes it would be unreasonable to require that a plan which demonstrates attainment include all technologically and economically available control measures even though such measures would not expedite attainment. Thus, for some sources in areas which demonstrate attainment, it is possible that some available control measures may not be "reasonably" available because their implementation would not expedite attainment.

[6]See, e.g., 44 FR 20375 (April 4, 1979). See also 56 FR 5460 (February 11, 1991).

III. Reasonable Further Progress (RFP)

Part D SIP's must provide for reasonable further progress (RFP) [see section 172(c)(2) of the Act]. Section 171(1) of the Act defines RFP as "such annual incremental reductions in emissions of the relevant air pollutant as are required by this part [Part D] or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date." Historically, for some pollutants, RFP has been met by showing annual incremental emission reductions sufficient generally to maintain linear progress toward attainment by the specified deadline. Requiring linear emission reduction progress to maintain RFP may be appropriate for pollutants which are emitted by numerous and diverse sources, where the relationship between any individual source and the overall air quality is not explicitly quantified, where there is not a chemical transformation involved, and where the emission reductions necessary to attain the standard are inventory-wide. Requiring linear progress to maintain RFP is less appropriate where there is a limited number of sources, where the relationships between individual sources and air quality are relatively well defined, where there is a chemical transformation, and where emission controls which result in swift and dramatic improvement in air quality are utilized.

The EPA believes it may not be reasonable to require linear reductions in emissions in SIP's for lead nonattainment areas because the air quality problem is not usually due to a vast inventory of sources. However, this is not to suggest that generally it would be unreasonable for EPA to require annual incremental reductions in emissions in lead nonattainment areas. The EPA recommends that SIP's for lead nonattainment areas provide a detailed compliance schedule for the RACM (including RACT) to be implemented in the area and accurately indicate the corresponding annual emission reductions to be realized from each milestone in the schedule. In reviewing the SIP EPA will determine whether, in light of the statutory objective to ensure timely attainment of the lead NAAQS, the annual incremental emission reductions to be achieved are reasonable. Finally, note that failure to implement the SIP provisions required to meet annual incremental reductions in emissions (RFP) in a particular area could result in the application of sanctions as described in sections 110(m) and 179(b) of the Act (pursuant to a finding under section 179(a)(4)), and the implementation of contingency measures required by section 172(c)(9) of the Act.

IV. Contingency Measures

Section 172(c)(9) of the Act defines contingency measures as measures in a SIP which are to be implemented if an area fails to maintain RFP or fails to attain the NAAQS by the applicable attainment date. Contingency measures become effective without further action by the State or the Administrator, upon determination by the Administrator that the area has failed to (1) maintain reasonable further progress or (2) attain the lead NAAQS by the applicable statutory deadline. Contingency measures should consist of available control measures that are not included in the primary control strategy.

Contingency measures are important for lead, which is generally a stationary source problem (as discussed earlier), for several reasons. First, the current process and area fugitive emissions from these stationary sources and the reentrainment of historically deposited emissions are difficult to quantify. Therefore, the analytical tools for determining the relationship between reductions in emissions and resulting air quality improvements can be subject to uncertainties. Second, emission estimates and attainment analyses can be influenced by overly-optimistic assumptions about control efficiency with respect to fugitive emissions.

Examples of contingency measures for controlling area fugitives include paving more roads, stabilizing more storage piles, increasing the frequency of street cleaning, etc. Examples of contingency measures for process fugitive emissions include increasing enclosure of buildings, increasing air flow in hoods, increasing operation and maintenance (O & M) procedures, etc. Examples of contingency measures for stack sources include reducing hours of operations, changing the feed material to lower lead content pending the adoption of a revised SIP, and reducing the occurrence of malfunctions by increasing O & M procedures, etc.

Section 172(c)(9) provides that contingency measures must be included in the SIP for a lead nonattainment area and shall "take effect...without further action by the State or the Administrator." The EPA interprets this requirement to be that no further rulemaking actions by the State or EPA would be needed to implement the contingency measures [see generally 57 FR 13512 and 13543-544]. The EPA recognizes that certain actions, such as the notification of sources, modification of permits, etc., would probably be needed before a measure could be implemented. However, States must show that their contingency measures can be implemented with minimal further action on their part and with no additional rulemaking actions such as public hearings or legislative review. After EPA determines that a lead nonattainment area has failed to maintain RFP or to timely attain

the lead NAAQS, EPA generally expects all actions needed to affect full implementation of the measures to occur within 60 days after EPA notifies the State of such failure. The State should ensure that the measures are fully implemented as expeditiously as practicable after they take effect.

V. Appendix 1 - Available Fugitive Lead-Bearing Dust Control

A. Background

The available control measures listed below apply to all fugitive lead-bearing dust sources except those to which reasonably available control technology (RACT) is applicable (i.e., fugitive lead-bearing dust associated with stationary sources). Fugitive lead-bearing dust is particulate matter suspended in the air either by mechanical disturbance of the surface material or by wind action blowing across the surface. Mechanical disturbance includes resuspension of particles from vehicles traveling over roadways, parking lots, and other open areas. Wind action includes dust blown off inadequately stabilized open areas. The quantity of fugitive lead-bearing dust emissions is dependent upon several factors such as the size of the source, emission rate, and control efficiency. The Environmental Protection Agency's (EPA) policy is to reduce fugitive lead-bearing dust emissions, with an emphasis on preventing, rather than mitigating, them. For example, past efforts to control emissions from paved roads have usually relied on street cleaning to reduce silt loading. The new approach would put a higher priority on measures to prevent silt from getting on the road surface. Mitigative measures should be reserved for those areas/situations where prevention is not feasible or the only way to reduce the impact is to remove historically deposited emissions. Technical guidance on fugitive dust control measures is found in "Control of Open Fugitive Dust Sources" (EPA-450/3-88-008 September, 1988).

B. List of Available Control Measures

1. Pave, vegetate, or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.

2. Require dust control plans for construction or land-clearing projects.

3. Require haul trucks to be covered.

4. Provide for traffic rerouting or rapid clean up of temporary (and not readily preventable) sources of dust on paved roads (water erosion runoff, mud/dirt carryout areas, material spills, skid control sand). Delineate who is responsible for cleanup.

5. Require paving, chemically stabilizing, or otherwise stabilizing permanent unpaved haul roads, and parking or staging areas at commercial, municipal, or industrial facilities.

6. Develop traffic reduction plans for unpaved roads. Use of speed bumps, low speed limits, etc., to encourage use of other (paved) roads.

7. Limit use of recreational vehicles on open land (e.g., confine operations to specific areas, require use permits, outright ban).

8. Require improved material specification for and reduction of usage of skid control sand or salt (e.g., require use of coarse, nonfriable material during snow and ice season).

9. Require curbing and pave or stabilize (chemically or with vegetation) shoulders of paved roads.

10. Pave or chemically stabilize unpaved roads.

11. Pave, vegetate, or chemically stabilize unpaved parking areas.

12. Require dust control measures for material storage piles.

13. Provide for storm water drainage to prevent water erosion onto paved roads.

14. Require revegetation, chemical stabilization, or other abatement of wind erodible soil, including lands subjected to water mining, abandoned farms, and abandoned construction sites.

15. Rely upon the soil conservation requirements (e.g., conservation plans, conservation reserve) of the Food Security Act to reduce emissions from agricultural operations.

VI. Appendix 2 - RACT Determinations for Stationary Sources

A. Background

Congress has for the second time in amending the Clean Air Act (Act) specifically required that reasonable available control technology (RACT) be applied to existing stationary sources in areas designated nonattainment. In section 172(b)(3) of the Act, as amended in 1977, Congress specified that nonattainment area plans were to "require ... reasonable further progress ... including such reduction in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology." Thus RACT was required in SIP's developed for areas that were designated nonattainment. Now, in section 172(c)(1) of the Act, as amended in 1990 (Nonattainment Plan Provisions - In General), Congress again requires that nonattainment area plans provide for ". . . such reductions in emissions from existing sources in the [nonattainment] area as may be obtained through the adoption, at a minimum, of reasonably available control technology." Thus, RACT is now required for lead nonattainment area SIP's.

The EPA recommends that the nonattainment area RACT for a particular source continues to be determined on a case-by-case basis considering the technological and economic feasibility of reducing emissions from that source (through process changes or add-on control technology). The following technological and economic parameters should be considered in determining Part D RACT for a particular source.

B. Technological Feasibility

The technological feasibility of applying an emission reduction method to a particular source should consider the sources's process and operating procedures, raw materials, physical plant layout, and any other environmental impacts such as water pollution, waste disposal, and energy requirements. The process, operating procedures, and raw materials used by a source can affect the feasibility of implementing process changes that reduce emissions and the selection of add-on emission control equipment. The operation of and longevity of control equipment can be significantly influenced by the raw materials used and the process to which it is applied. The feasibility of modifying processes or applying control equipment is also influenced by the physical layout of the particular plant. The space available in which to implement such changes may limit the choices and will also affect the costs of control.

Reducing air emissions may not justify adversely affecting other resources by increasing pollution of bodies of water, creating additional solid waste disposal problems or creating

excessive energy demands. [An otherwise available lead control technology may not be reasonable if these other environmental impacts cannot reasonably be mitigated.] For analytic purposes, a State may consider a lead control measure technologically infeasible if, considering the availability (and cost) of mitigative adverse impacts of that control on other pollution media, the control would not, in the State's reasoned judgment, provide a net environmental benefit. In many instances, however, lead control technologies have known energy penalties and adverse effects on other media, but such effects and the cost of their mitigation are also known and have been borne by owners of existing sources in numerous cases. Such well-established adverse effects and their costs are normal and assumed to be reasonable and should not, in most cases, justify nonuse of the lead control technology. The costs of preventing adverse water, solid waste and energy impacts will also influence the economic feasibility of the lead control technology.

Approaches to reducing emissions of lead are discussed in "Control Techniques for Lead Air Emissions,"[7] Volume I - Chapters 1 - 3, and Volume II - Chapter 4 - Appendix B, (EPA-450/2-77-012), December 1977. The many processes that generate lead air pollutants are described individually in this report. Information on the selection and performance of alternative control techniques applicable to lead emitting facilities within specific source categories is presented. Information on capital and annualized costs of installing lead emission controls is also presented. Since it is not possible, in most cases, to distinguish between costs of particulate control and costs of lead control, control costs are presented for particulate control equipment which coincidentally reduce potential lead emissions. Also presented, for most source categories, are estimates of the environmental and energy impacts associated with the control of lead emissions.

Alternative approaches to reducing emissions of particulate matter (which would include lead) are discussed in "Control Techniques for Particulate Emissions from Stationary Sources" - Volume I (EPA-450/3-81-005a) and Volume II (EPA-450/3-81-005b), September 1982. The design, operation and maintenance of general particulate matter control systems such as mechanical collectors, electrostatic precipitators, fabric filters, and wet scrubbers are discussed in Volume I. The collection efficiency of each system is discussed as a function of particle size. Information is also presented regarding energy and environmental considerations and procedures for estimating costs of particulate matter control equipment. The emission characteristics and control technologies applicable to specific source categories are

[7]Note that this document is currently being revised by EPA.

discussed in Volume II. Secondary environmental impacts are also discussed.

Additional sources of information on control technology are background information documents for new source performance standards and "Identification, Assessment, and Control of Fugitive Particulate Emissions," EPA-600/8-86-023, August 1986.

In some instances, control technologies more modern or more advanced than those described in the documents referenced may exist. In such cases, the State's nonattainment RACT analysis for a source should consider such available technology.

C. Economic Feasibility

Economic feasibility considers the cost of reducing emissions and the difference in costs between the particular source and other similar sources that have implemented emission reductions. As discussed above, EPA presumes that it is reasonable for similar sources to bear similar costs of emission reduction. Economic feasibility rests very little on the ability of a particular source to "afford" to reduce emissions to the level of similar sources. Less efficient sources would be rewarded by having to bear lower emission reduction costs if affordability were given high consideration. Rather, economic feasibility for RACT purposes is largely determined by evidence that other sources in a source category have in fact applied the control technology in question.

The capital costs, annualized costs, and cost effectiveness of an emission reduction technology should be considered in determining its economic feasibility. The "OAQPS Control Cost Manual, Fourth Edition," EPA-450/3-90-006, January 1990, describes procedures for determining these costs. The above costs should be determined for all technologically feasible emission reduction options.

States may give substantial weight to cost effectiveness in evaluating the economic feasibility of an emission reduction technology. The cost effectiveness of a technology is its annualized cost ($/year) divided by the amount of lead emission reduction (i.e., tons/year) which yields a cost per amount of emission reduction ($/ton). Cost effectiveness provides a value for each emission reduction option that is comparable with other options and other facilities.

If a company contends that it cannot afford the technology that appears to be nonattainment area RACT for that source or group of sources, the claim should be supported with such information as the impact on:

1. Fixed and variable production costs ($/unit),

2. Product supply and demand elasticity,
3. Product prices (cost absorption vs. cost pass-through),
4. Expected costs incurred by competitors,
5. Company profits, and
6. Employment.

If a company contends that available control technology is not affordable and would lead to closing the facility, the costs of closure should be considered. Closure may incur costs for demolition, relocation, severance pay, etc.